

American River Basin: Upper Unionhouse Creek Flood Protection Project

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Proposal Cost Estimate

This Proposition 1E Implementation Grant Proposal is for the Sacramento Area Flood Control Agency's (SAFCA's) Upper Unionhouse Creek Flood Protection Project. The total cost of the proposal is \$1,953,546. Of this amount, \$976,773 (50%) is provided as non-state funding match and \$976,773 (50%) is being requested from the State through the Proposition 1E Grant Program.

Summary

Unionhouse Creek, a tributary to Morrison Creek in the southern part of the City of Sacramento and in unincorporated Sacramento County, floods out of bank in 100-year and more frequent storms. An estimated 250-300 homes are in the 100-year floodplain. The proposed project seeks to keep 100-year flood flows within the channel from the confluence of Unionhouse and Strawberry Creek, downstream to Franklin Boulevard where the federal South Sacramento Streams Group (SSSG) project (Federal Project) will commence. The project will remove up to 300 homes from the floodplain, relieving the homeowners of the burden of flood insurance and the threat of flooding. The lower reach of Unionhouse Creek, below Franklin Boulevard, has already been improved under the Federal Project. The reach between Franklin Boulevard and Center Parkway has been under study as a part of the SSSG, but the project would enable this reach to be removed from the Federal Project, keeping it out of the State Plan of Flood Control and avoiding state liability for its maintenance. The project will solve flooding issues in the project reach at a lower cost than could be achieved with the Federal Project, and removing this reach from the Federal Project will leverage other federal, state and local funds for underfunded flood control needs elsewhere in the Morrison Creek watershed.

The Upper Unionhouse Flood Protection Project will address the existing flood risk along Unionhouse Creek by expanding the width and adjusting the depth of the existing channel between Franklin Boulevard and Bruceville Road. This project would significantly reduce the likelihood of overbank

flooding in this portion of the Creek and would provide at least a 100-year level of flood protection to the lands adjacent to the Creek in this area thus removing between 250 and 300 homes from the regulated floodplain and relieving the homeowners of the burden of costly flood insurance.

A summary of the budget for the Upper Unionhouse Creek Flood Protection Project is presented in Table 1. The budget is based on the latest project documentation and estimates for professional services. The total cost for this project is \$1,953,546. The funding match for this project is \$976,773 or 50%. This budget has been prepared to reflect the specific work items shown in Attachments 3 and 5, the Work Plan and Schedule, respectively.

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Table 1: Upper Unionhouse Creek Flood Protection Project

Project Budget						
Project Title: Upper Unionhouse Creek Flood Protection Project						
Budget Category		(a)	(b)	(c)	(d)	(e)
		Non-State Share* (Funding Match)	Requested Grant Funding	Other State Funds Being Used	Total	% Funding Match
(a)	Direct Project Administration Costs	\$40,063	\$0	\$0	\$40,063	100%
(b)	Land Purchase/Easement	\$153,960	\$0	\$0	\$153,960	1000%
(c)	Planning/Design/Engineering/ Environmental Documentation	\$400,500	\$0	\$0	\$400,500	100%
(d)	Construction/Implementation	\$220,883	\$737,242	\$0	\$958,125	23%
(e)	Environmental Compliance/ Mitigation/Enhancement	\$59,600	\$0	\$0	\$59,600	100%
(f)	Construction Administration	\$95,813	\$0	\$0	\$95,813	100%
(g)	Other Costs	\$5,954	\$0	\$0	\$5,954	100%
(h)	Construction/Implementation Contingency	\$0	\$239,531	\$0	\$239,531	0%
(i)	Grand Total	\$976,773	\$976,773	\$0	\$1,953,546	50%
*Sources of funding: SAFCA assessment district funding, City of Sacramento in-kind land contribution and funding, Regional Transit funding						

(a) Direct Project Administration Detail

Direct project administration costs for the project were calculated based on expected level of effort by involved staff and costs. Table 2 details the hourly wages paid by discipline and the number of hours to be expended for project administration. Direct project administration costs include general project administration tasks (claim preparation, communications with the California Department of Water Resources [DWR] and SAFCA's Board), Labor Compliance Program (LCP) development and implementation, and reporting (quarterly reports and final report). As noted in Attachment 3, Work Plan, SAFCA will use the services of the City of Sacramento construction management personnel for labor compliance for this project. An additional \$1,900 is included to account for miscellaneous supplies and reproduction, which results in a total project administration cost of \$40,063.

Table 2: Administration Detail

Discipline	Hourly Wage (\$/hr)	Number of Hours	Total
Administration	\$100	150	\$15,000
Reporting	\$100	40	\$4,000
Labor Compliance Program			\$19,163
		Total	\$38,163

(b) Land Purchase/Easement Detail

The existing upper Unionhouse Creek channel is already in public ownership; however some easement acquisition will be required from the City of Sacramento and Cosumnes River College to enlarge the channel as proposed. Land purchase and easement acquisition would be completed prior to the start of construction which is scheduled to begin in April 2012. Costs have been estimated for the anticipated project easements and are summarized in Table 3, below.

Table 3: Land Purchase/Easement

Project Phase	Estimated Land or Easement Cost
Easements	\$153,960

(c) Planning/Design/Engineering/Environmental Documentation Detail

Direct project planning/design/engineering/environmental documentation costs were estimated using hourly wage paid by discipline and the number of hours to be expended for planning, design, engineering, environmental documentation work items. At present, the conceptual (10%) design phase of the project has been completed; therefore, this budget item includes a 30% Design, 60% Design, 90% (pre-final) Design, and 100% (final) Design. A consultant will be hired to draft a Mitigated Negative Declaration (MND) for this project to comply with the California Environmental Quality Act (CEQA). The MND will be circulated in August 2011, followed by a public review period and SAFCA Board approval of the MND in September 2011.

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A preliminary project layout has been developed, and is considered the 10% design. Flood modeling has been performed to evaluate the feasibility of the concept for providing flood protection for greater than 100-year flows. Additional planning studies will be completed prior to completing design. These planning studies include cadastral and topographic surveys, a geotechnical study evaluating geologic conditions at the project site, and a Phase 1 Environmental Site Assessment. Consultants will be hired in April 2011 to conduct these studies, which are expected to be completed in May and June 2011. The project is expected to be feasible based on the flood modeling already performed and based on the U.S. Army Corps of Engineer's experience and design of similar channel improvement projects conducted downstream of the proposed project.

Finally, several permits will be required for this project; these include: a California Department of Fish and Game (DFG) Section 1602 Streambed Alteration Agreement, a U.S. Army Corps of Engineers (USACOE) Section 404 permit, a Section 7 Endangered Species Act Consultation, a Central Valley Regional Water Quality Control Board (CVRWQCB) Section 401 permit, and a Central Valley Flood Protection Board (CVFPB) Encroachment Permit. In addition, a State Water Quality Control Board Stormwater NPDES Permit for Construction will be required. Permits will be obtained by the consultant firm performing environmental documentation. All permits are expected to be issued by February 2012, prior to the start of construction.

The costs associated with preparing these permits is included herein, however, the permit fees are included in Row (g) of this project budget. The 100% plans and specs will be used to prepare the bid package for bid advertisement.

Table 4: Planning/Design/Engineering/Environmental Documentation Detail

Stage	Discipline	Hourly Wage (\$/hr)	Number of Hours	Total
Design	Senior Principal	\$215	75	\$16,125
Design	Principal Professional	\$155	125	\$19,375
Design	Senior Professional	\$135	225	\$30,375
Design	Project Professional	\$115	290	\$33,350
Design	Staff Professional	\$85	345	\$29,325
Design	CAD	\$85	200	\$17,000
Design	Clerical	\$48	150	\$7,200
CEQA and Permitting	Environmental Sub	\$150	450	\$67,500
Soil Characterization	Geotechnical Sub	\$210	150	\$31,500
Surveying	Surveying Sub	\$150	150	\$22,500
Phase 1 Site Assessment	Consultant	\$175	150	\$26,250
FEMA LOMA Process	Consultant	\$200	500	\$100,000
Total				\$400,500

(d) Construction/Implementation Detail

The total cost for Construction/Implementation for the Project is \$958,125. The basis of the estimate is shown in Table 5. Costs shown in this table are furnished and installed prices and include material, labor and equipment costs.

Table 5: Cost of Materials for Construction

Materials Used (units)	Unit Costs (\$)	Number of Units	Total (\$)
Mobilization/Demobilization (LS)	\$45,625	1	\$45,625
Temporary Fencing (LF)	\$2	9000	\$13,500
Strip Vegetation (CY)	\$5	10000	\$50,000
Demolition and Disposal of Channel (CY)	\$50	1000	\$50,000
Soil Excavation (CY)	\$5	55000	\$275,000
Concrete Channel Bottom (LF)	\$300	1620	\$486,000
Concrete Curb (LF)	\$10	2800	\$28,000
Hydroseed (AC)	\$2,000	5	\$10,000
Total			\$958,125

(e) Environmental Compliance/ Mitigation/Enhancement Detail

As the Upper Unionhouse Creek Flood Protection Project will occur in an existing public right-of-way in a channel that already has a concrete bottom, anticipated impacts are expected to be minimal.

Environmental compliance, mitigation, and enhancement actions associated with this project are expected to be minimal and primarily focused on habitat restoration. Anticipated mitigation and environmental compliance costs are incorporated into the unit costs for construction. Monitoring required as part of implementation of the Project Performance Plan will also be implemented under this task.

A project-specific Project Performance Monitoring Plan will be prepared for this project under Task 12 included in Budget Category (g) to direct longer-term project monitoring to ensure successfully project implementation and operation. It should be noted that, while the schedule for this project shows that project performance monitoring and reporting will cease at the completion of project construction, it is understood the project performance monitoring will continue for 10 years following project completion, with annual project performance reporting.

Table 6: Cost of Environmental Compliance/Mitigation/Enhancement

Discipline	Total (\$)
Project Performance Monitoring	\$9,600
Mitigation Measures	\$50,000
Total	\$59,600

(f) Construction Administration Detail

Construction Administration for the Upper Unionhouse Creek Flood Protection Project is expected to cost approximately \$95,813, or approximately 10% of construction costs. This estimate is based on SAFCA's experience with similar projects. Construction administration will be provided by a cooperating entity (likely City of Sacramento personnel) or a contractor. Costs include all aspects of construction administration, including reviewing and managing contractor submittals, inspecting completed work, and reviewing invoices.

(g) Other Costs Detail

Other costs associated with the Upper Unionhouse Creek Flood Protection Project include permit fees as shown in the following table, and costs associated with preparation of a Project Performance Monitoring Plan. Total costs for this task is \$5,954, with the majority of the cost for permit fees.

Table 7: Other Costs

Item	Cost (\$)
Department of Fish and Game 1602 Streambed Alteration Agreement	\$4,483
U.S. Army Corps of Engineers Section 404 Permit	\$100
Regional Water Quality Control Board Section 401 Permit	\$500
NPDES General Stormwater Permit	\$346
U.S. Army Corps of Engineers Section 7 Consultation	No Fee
Central Valley Flood Protection Board Encroachment Permit	No Fee
Prepare Monitoring Report	\$525
Total	\$5,954

(h) Construction/Implementation Contingency Detail

The construction/implementation contingency percentage applied to this project is 25% of the construction costs. These contingencies are based on prior project experience and engineering.

Table 8: Contingencies

Project Phase	Estimated Land or Easement Cost
Construction Contingency	\$239,531

(i) Grand Total (Sum rows (a) through (h) for each column) Detail

The total estimated cost for Upper Unionhouse Creek Flood Protection Project is \$1,953,546; \$976,773 is provided through funding match and \$976,773 is being requested from the Proposition 1E IRWM stormwater grant program.

Calculation of Funding Match %

The funding match for Upper Unionhouse Creek Flood Protection Project is \$976,773 or 50% of the total project costs and is provided by SAFCA assessment district funding, City of Sacramento in-kind land contribution and funding, and Regional Transit funding.